



When I saw the oil stain on my favourite suit I nearly died!

Terry Oatley

The above headline, placed over a black-and-white photograph of a white-and-black Jackass Penguin, was featured in South African newspapers in July 1994. This advertisement, sponsored by a local business firm, was placed by the South African National Council for the Conservation of Coastal Birds (SANCCOB) to record its thanks to all that had given their time, money and physical labour to assist in the rehabilitation of thousands of these threatened birds, which were victims of the worst oil pollution disaster in the history of Cape Town.

The Jackass Penguin *Spheniscus demersus* is Africa's only penguin, and it occurs in the cold waters that gird the southern and western coasts of southern Africa. It breeds on 24 rocky islands (and, since the 1980s, also at three mainland sites) stretching from Algoa Bay in the south to north of Luderitz on the Namibian coast. Most of these islands are separated by no more than a few kilometres from the mainland. The penguins share the islands with one or more other species of breeding seabird such as the Cape Gannet *Morus capensis*, and in some cases also with Cape Fur Seals *Arctocephalus pusillus*, which can be wanton killers of penguins.

The current population estimate for Jackass Penguins is some 170,000 birds^{1,2}. Yet as recently as 1930 there may have been as many as 1.5 million breeding birds. They are already extinct at 11 of the 38 sites at which they were known to breed, and although some new colonies have come into existence in the 1980s the overall population trend is still one of decline. Several factors have operated to reduce penguin numbers to only 10 per cent of what they were earlier in the century and to an unknowable fraction of what they must have been before the coming of humans¹.

One of these factors was the plundering of eggs, which was probably responsible for the extinction, as long ago as 1798, of the colony on Robben Island off Cape Town (better known as the island where President Nelson Mandela spent many years as a political prisoner). Some 13 million eggs were said to have been harvested in the first 30 years of this century, and as recently as the 1950s more than 90,000 eggs per annum were collected from Dassen Island for the Cape Town markets, before the practice was prohibited.

Another activity only recently suspended was the harvesting of guano. The breeding sites of the penguins are known as the guano islands, and all of them have now been stripped bare of several metres' thickness of guano accumulated over countless centuries. These thick layers of guano formed a natural substrate into which the penguins made burrows where their eggs and chicks were safe from the elements and the eyes of marauding Kelp Gulls *Larus dominicanus*. Now they are obliged to find shelter for their eggs under the lee of a boulder,

but some of the islands are dish-shaped and winter rains can flood nest sites.

Other islands have little in the way of shelter and hot weather may prove intolerable for the adult birds, forcing desertion of the eggs or chicks.

A major impact on the Jackass Penguins' environment has been the commercial exploitation of the rich fishing grounds of the Benguela upwelling off the west coast of southern Africa. Burgeoning fleets of local and foreign trawlers have taken an ever greater tonnage of fish and predictably brought about the collapse of the pilchard stocks. The over-fishing continues to this day, with smaller mesh nets now taking anchovy and sar-



Jackass Penguin *Spheniscus demersus*
By Colin Towse

dine. For the penguins this has meant a disastrous depletion in quality and quantity of their food resources. When pilchard were freely available, collecting enough food for the chicks could be achieved with reasonable catch effort and energy expenditure, but now penguins have to search larger areas for much smaller fish. Jackass Penguins can cruise at 7 km/h and can attain speeds in excess of 20 km/h when necessary; they can dive to depths of 100 m and can stay under water for more than three minutes at a time. But unlike Cape Gannets, which can make an outward journey of over 100 km in search for food and return with ease within the time span required for optimum provisioning of their chicks, the maximum range of a Jackass from its breeding site is only about 40 km. Research has shown that on average a penguin swims over 100 km in a single trip to collect food and that each chick requires some 26 kg of anchovy to reach its fledging weight².

The biggest threat these penguins face is the risk of oil pollution. The Cape coast is bounded by one of the world's major sea lanes, and a major oil spill in the Algoa Bay area could spell death for the 45 per cent of the total Jackass Penguin population centered in that area. In fact more than a 1000 penguins breeding on St Croix island were oiled when the freighter *Kapodistrias* ran aground nearby in 1985, and many of these perished. By far the worst disaster to date occurred in June 1994, however, when oil slicks came ashore on Dassen Island - nobody knew from whence - and thousands of breeding penguins were heavily oiled. The winter storms made boat landings impossible; oiled birds that could be caught by teams, working to their limits of physical exhaustion, were evacuated by military helicopters and taken to the SANCCOB cleaning station. Oil also washed up on Robben Island, affecting thousands of penguins in the recently re-established breeding colony there, and along the exclusive tourist beaches of Cape Town's Atlantic seaboard. Tests revealed that the oil was bunker fuel, and it transpired that an ore carrier, the *Apollo Sea*, had broken up and sunk with all hands not far from Dassen Island before even a distress signal could be broadcast.

It was only a minor oil spill: the ship had been carrying less than 3000 tons of bunker oil, a minuscule amount compared with the cargo load of a super tanker. However, of all the wildlife affected, the penguins took the brunt of the resulting pollution. SANCCOB's Rietvlei Rehabilitation Centre was designed for the handling of scores or even hundreds of penguins, but the oiled birds came in thousands. The heart-warming side of the tragedy was that volunteers turned up in hundreds and worked long hours in the icy cold, cleaning and force-feeding seemingly unending queues of grievously oiled birds, getting hands, arms

(and other much more tender parts of their anatomy) pecked, tweaked and lacerated by the razor-sharp beaks of the alarmed penguins. The station's holding pens were not large enough to house the numbers involved, so swimming pools and their enclosed surrounds at some local military bases provided temporary quarters for thousands of cleaned birds. Many were too traumatised and chilled to survive the rehabilitation process (under 'normal' circumstances SANCCOB has an 80 per cent rehabilitation success rate with Jackass Penguins), and it will be some time before the final toll can be estimated. Dassen Island, for example, had approximately 20,000 breeding birds, and more than 13,000 of these may have perished, as well as nearly all of the chicks.

Many lessons were learned in what was the biggest rescue operation of its kind in South Africa, and the experience gained will be invaluable in future spills, which will inevitably occur. But for all those who laboured so hard for these charismatic birds, there were some joyous moments. Towards the end of July the first large batch of rehabilitees was released on the coast opposite Dassen Island. The following day the resident Cape Nature Conservation Officer reported that the island was noisy again with the brays of penguins greeting their mates, and there were once more lots of birds on the beaches looking fat and well. One of the birds released on 27 July was wearing band T0764; it had been found oiled at a nest on Robben Island, tending two chicks. It was back at its nest on Robben on the same day as its release, its unoiled mate in the interim having continued to raise the two chicks single-fledgedly, as it were!

Of more than 4000 penguins that were rehabilitated in July and August, only six had been reported dead on mainland beaches by the end of October, a reporting rate far lower than the average for the species. Although the future may be fraught with peril for Africa's only penguin, a whole spectrum of South African society showed that they cared when it mattered, and this very special species may yet survive for posterity. ☺

References

1. Crawford R.J.M., Williams A.J., Randall R.M., Randall B.M., Berruti A. and Ross G.J.B. 1990. Recent population trends of Jackass Penguins *Spheniscus demersus* off southern Africa. *Conservation Biology* 52: 229-243.
2. Vergnani, L. 1994. Jackass of the seas. *Africa environment & wildlife* 2(2): 28-39.

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